

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-41 are pending, with Claims 1, 2, 3, 6, 7, 10-13, 27 and 34 amended and Claim 9 canceled by the present Amendment.

In the Official Action, Claim 9 was rejected under 35 U.S.C. § 112, first paragraph; Claims 7-8 were objected to; Claims 1-2 and 10 were rejected under 35 U.S.C. § 102(a) as being unpatentable over Williams (U.S. Patent No. 5,867,764); and Claims 3-8, 13 and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Williams in view of Chuah et al. (U.S. Patent No. 6,693,952, hereinafter Chuah).

In the Official Action of October 31, 2005, Applicants' pending claims were the subject of a restriction requirement. In Applicants' response of November 30, 2005, Applicants traversed this requirement, and provisionally elected Claims 1-10, 13 and 27. In the present Official Action, the restriction was not addressed, let alone made final. Therefore, Applicants submit Claims 1-41 are still pending.

Furthermore, Applicants note that Claims 11-12 are directed to a system corresponding to the methods of Claims 1-2. Thus, if the restriction is to be made final, Applicants submit that, contrary to Applicants' response of November 30, 2005, Claims 1-13 and 27 correspond to elected Group I as identified in the restriction requirement of October 31, 2005.

Claim 9 is canceled. Thus, the rejection under 35 U.S.C. § 112, first paragraph is moot. Claim 6 is amended to correct a typographical error. Claim 7 is amended to overcome the outstanding objection. Claim 27 is amended to correct dependency, thus rendering the outstanding rejection moot. Claim 3 and 34 are amended to be a singly dependent claim. Claims 1, 2, and 10-13 are amended to more clearly describe and distinctly claim Applicants'

Support for these amendments is found in Applicants' originally filed specification. No new matter is added.

Briefly recapitulating, Claim 1 is directed to a single carrier/DS-CDMA packet transmission method that expands a bandwidth of information symbols by a sequence of spreading codes, and transmits packets by use of spreading signals having an expanded bandwidth. The method includes assigning a predetermined fixed time slot for dedicated use for reservation demand packet transmission and code-multiplexing the predetermined time slot by utilizing part or all of the spreading codes; and time-multiplexing and transmitting reservation demand packets by use of the predetermined fixed time slot and data packets by use of other time slots. Claim 11 is directed to a corresponding system.

Claim 2 is directed to a single carrier/DS-CDMA packet transmission method that expands a bandwidth of information symbols by a sequence of spreading codes, and transmits packets by use of spreading signals having an expanded bandwidth. The method includes assigning  $k$  ( $0 < k < N$ ) spreading codes among all  $N$  spreading codes as fixed codes for dedicated use for reservation demand packet transmission, and time-multiplexing and transmitting reservation demand packets by use of the  $k$  spreading codes and data packets by use of other spreading codes. Claim 12 is directed to a corresponding system.

Claim 10 is directed to a single carrier/DS-CDMA packet transmission method that expands a bandwidth of information symbols by a sequence of spreading codes, and transmits packets by use of spreading signals having an expanded bandwidth. The method includes utilizing a short repetition period spreading code when expanding a bandwidth of reservation demand packets; utilizing a long repetition period spreading code when expanding a bandwidth of data packets; and transmitting the reservation demand packets by fixedly using the short repetition period spreading code without using the long repetition period spreading

code, and transmitting the data packets by fixedly using the long repetition period spreading code without using the short repetition period spreading code.

Williams describes a bidirectional cable network having a hybrid return gate system that prevents undesirable energy in the bidirectional cable network's return path from adversely affecting the entire network whether the network is operating as a contention based network, a reservation based network, or a combination thereof. The hybrid return gate system includes a solid state radio frequency switch used to connect and disconnect the return path of a bidirectional communications path in conjunction with a transmission for one of a plurality of remote points. Transmissions from a remote point occur in one of a plurality of dynamically defined contention time slots or reservation slots. At least one network monitoring time slot can also be defined to monitor and/or test the bidirectional cable network. In one embodiment, each return gate services a plurality of remote points downstream from the return gate. In a second embodiment, each remote point has a dedicated return gate. In either embodiment, the switch in a return gate will connect the return path at the occurrence of a contention time slot accompanied by a return gate enabling pry bar signal from a transmitting remote point. A return gate will also connect the return path at the occurrence of a reservation time slot assigned by the headend or due to any other command from the headend.<sup>1</sup>

Applicants first note that the Official Action, on page 3, recites that Williams discloses a data modulator 345 which may use CDMA modulation. Applicants traverse and submit there is no evidence or reference to CDMA modulation in Williams.

Furthermore, Williams describes a transmission of a reservation time slot request by use of a contention time slot, which is also used for data transmission. That is, the contention time slot is used for both a reservation time slot and data transmission. In Williams, if the

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<sup>1</sup> Williams, Abstract.

transmission of a reservation time slot thus fails, a retry is performed after a predetermined time period. That is, the reservation information is not included in a dedicated time slot. Accordingly, Williams fails to disclose or suggest assigning a predetermined fixed time slot for dedicated use to reservation demand packet transmission as recited in amended Claim 1 (or Claim 11). Similarly, Williams fails to disclose or suggest assigning  $k$  ( $0 < k < N$ ) spreading codes among all  $N$  spreading codes as fixed codes for dedicated use to reservation demand packet transmission as recited in amended Claim 2 (or Claim 12). Finally, Williams also fails to disclose or suggest transmitting reservation demand packets by fixedly using a short repetition period spreading code without using a long repetition period spreading code and transmitting the data packets by fixedly using the long repetition period spreading code without using the short repetition period spreading code as recited in amended Claim 10.

MPEP § 2131 notes that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See also MPEP § 2131.02. “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Because Williams does not disclose or suggest all the features recited in Claims 1, 2 and 10-12, Williams does not anticipate the invention recited in Claims 1, 2 and 10-12, and all claims depending therefrom.

Regarding Claims 3-8, Chuah does not cure the deficiencies of Williams relative to independent Claims 1 or 2. Thus, Claims 3-8 are patentable at least for the same reasons as those described above relative to Claims 1-2.

Regarding Claim 13, Chuah describes a UMTS based wireless system having a channelization code-tree partitioned into two sets: a permanent set and a shared set. Codes in the permanent set are assigned to low data rate users for the duration of a session or

connection period. Codes in the shared set are assigned to high data rate users on a frame-by-frame basis using a downlink shared (DSCH) channel. The partition boundary between the permanent set and the shared set can be dynamically shifted based on traffic conditions.<sup>2</sup>

Amended Claim 13 recites a single carrier/DS-CDMA packet transmission system including a base station and a plurality of mobile stations. The base station includes a measurement unit configured to measure a channel occupancy rate of a data packet; and a unit configured to determine a reservation demand packet transmission admission probability and a number indicative of how many spreading codes are available for reservation demand packets for notification to the mobile station. The base station determines the number of spreading codes available for reservation demand packets and the reservation demand packet transmission admission probability based on the measurement by the measurement unit, and notifies the mobile station of the determined number of spreading codes and the determined admission probability through a downlink broadcast channel by time-multiplexing.

In Claim 13, the base station determines the number of spreading codes available for reservation demand packets and the reservation demand packet transmission admission probability based on the measurement of the measurement unit. Chuah, on the other hand, only discloses or suggests changing a boundary between the permanent set and the shared set in response to a utilization rate.<sup>3</sup> Chuah fails to disclose or suggest determining the number of spreading codes available for reservation demand packets as recited in amended Claim 13. Williams also fails to disclose or suggest this feature.

MPEP §706.02(j) notes that to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a

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<sup>2</sup> Chuah, Abstract.

<sup>3</sup> Chuah, column 5, lines 16-41; Figure 7.

reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Also, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Without addressing the first two prongs of the test of obviousness, Applicants submit that amended Claim 13, and all claims depending therefrom, are patentable because both Williams and Chuah fail to disclose all the features of Applicants' claimed invention.

Accordingly, in view of the present amendment and in light of the previous discussion, Applicants respectfully submit that the present application is in condition for allowance and respectfully request an early and favorable action to that effect.

Respectfully submitted,

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